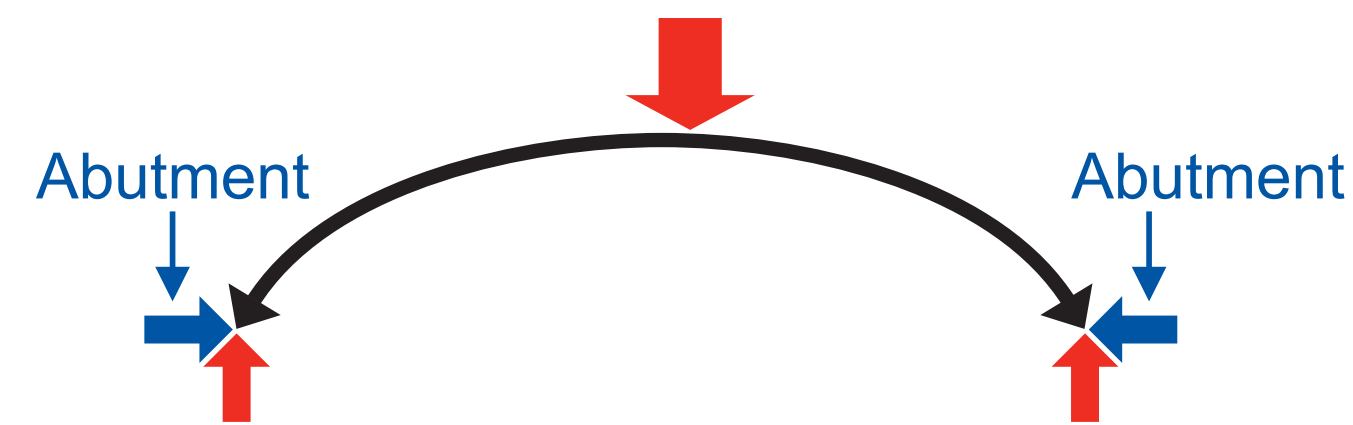


Wheeler's Bridge



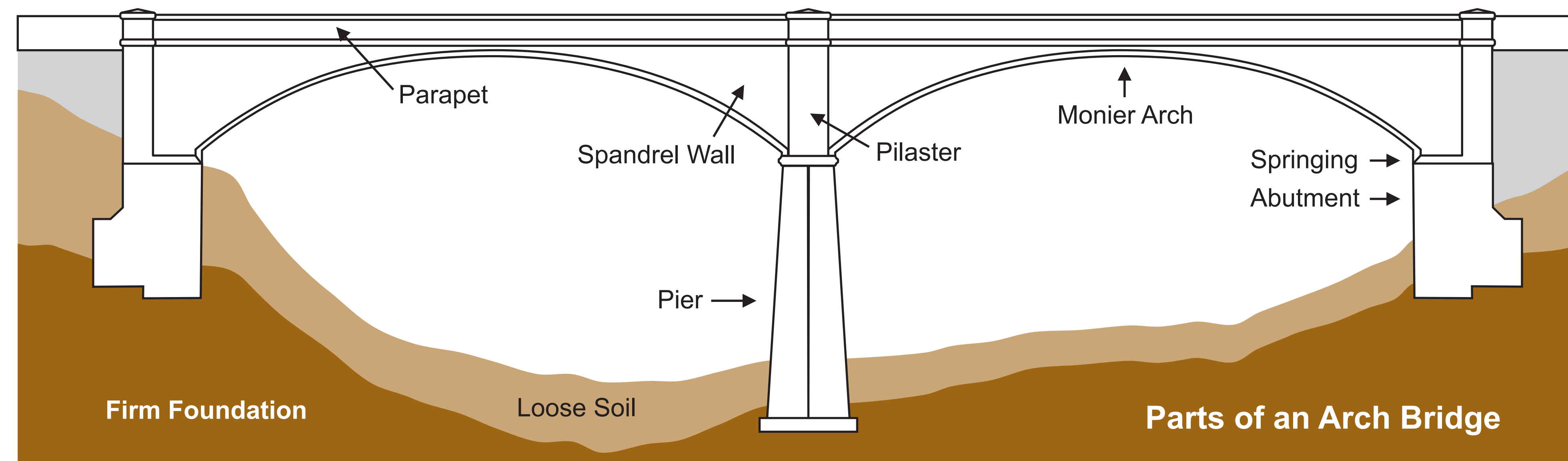
Why an Arch Bridge?

The graceful curve of an arch bridge transfers some of the weight of the bridge and its traffic into a horizontal force resisted by the abutments. Longer bridges may have several arches.

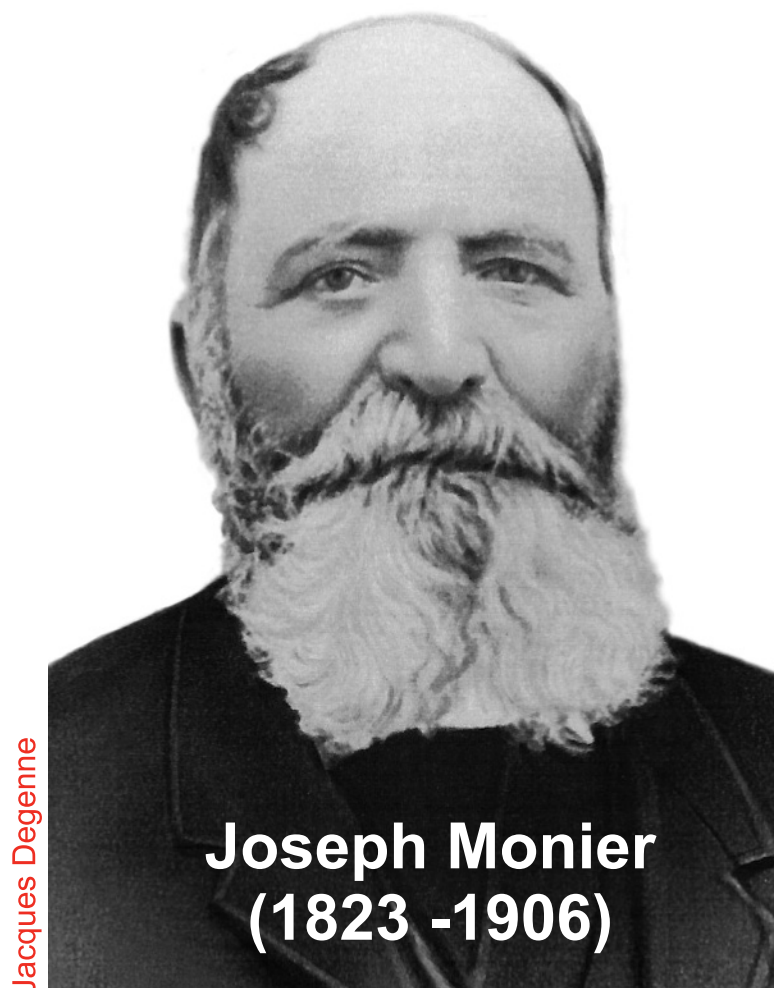
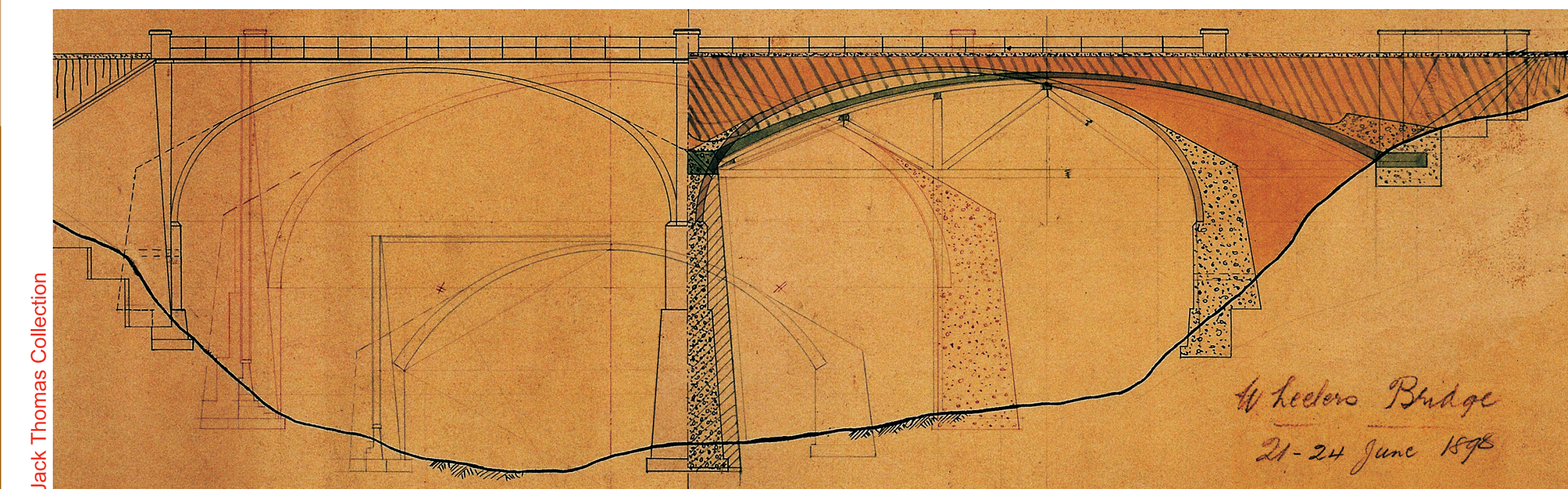
People have been building arch bridges for thousands of years. They're simple, they work, and they can be quite pleasing in appearance.

To build a Monier arch bridge, timber formwork was erected and steel reinforcement put in place. Then the concrete was poured into the form. When the concrete had gained sufficient strength, the formwork was removed.

An Early Use of Reinforced Concrete in Victoria



Monash & Anderson considered several different designs, some with and some without the central pier. These designs were presented to the Shire Council in the composite drawing shown below. The final design has tall abutments placed high up the bank.



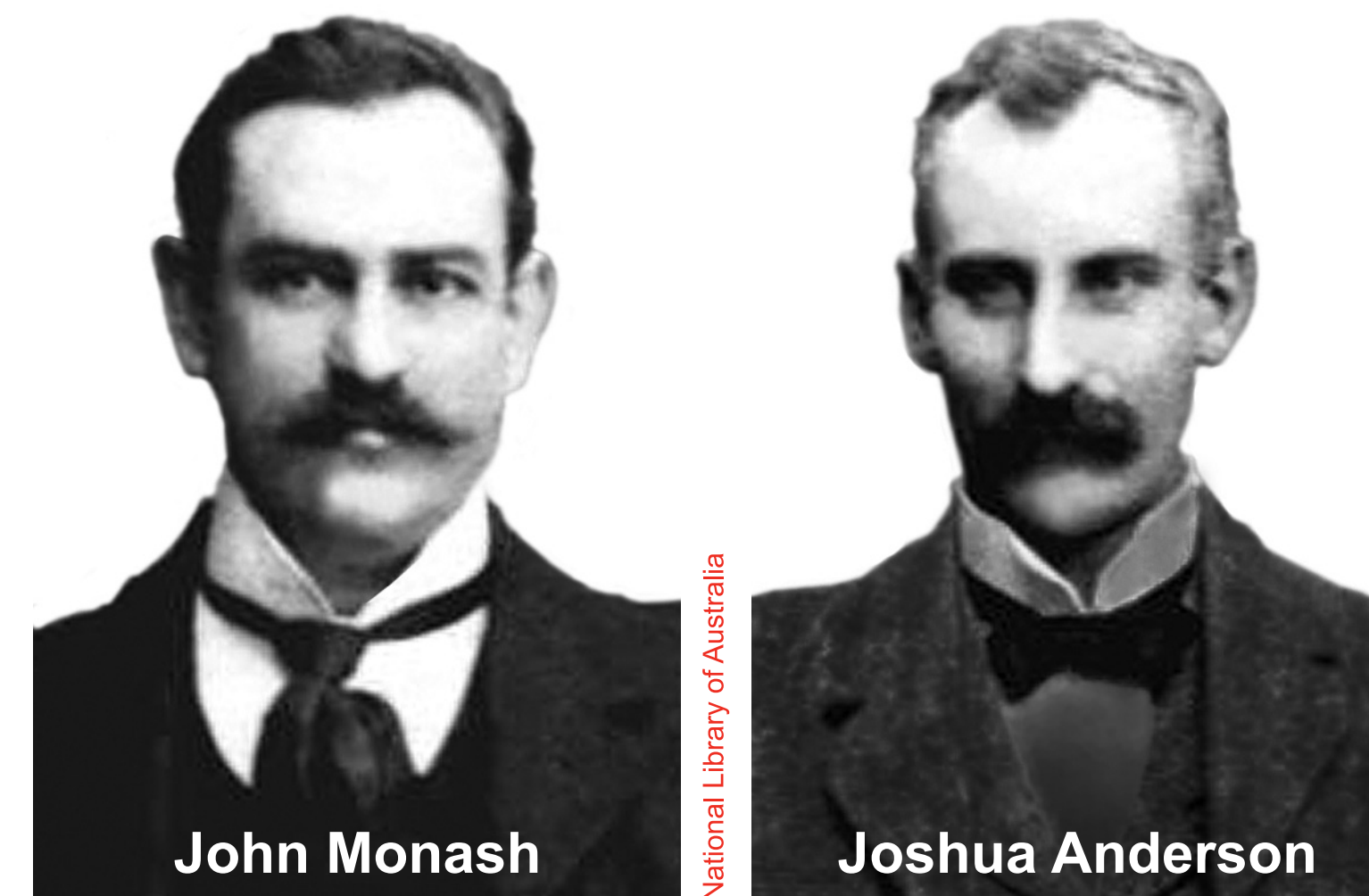
Building the Bridge

A timber bridge was built here in 1864. By 1889 it was in a "dilapidated state" and by 1898 the timbers were rotting. A two-span Monier arch bridge was chosen to replace it.

Jenkins Brothers of Ballarat started work in December 1898. Monash & Anderson took over the construction in 1899 and the bridge was completed in March 1900.

The bridge was load-tested with two large traction engines and formally opened with a ceremony on 30 March 1900.

Wheeler's bridge is the oldest Monier arch bridge in Victoria still carrying traffic (although the load limit has been reduced to 15 tonnes).



Monash & Anderson

Wheeler's bridge was designed and partially built by the Melbourne consulting engineers Monash & Anderson who started in 1894.

General Sir John Monash (1865 - 1931)

In 1905 John Monash started the Reinforced Concrete & Monier Pipe Construction Co. which continued to develop the use of reinforced concrete in Victoria. Following a brilliant military career in World War I Monash became Chairman of the State Electricity Commission of Victoria and led the effort to use Latrobe Valley brown coal to generate electricity.

Joshua Anderson (1865 - 1949)

Joshua Anderson's engineering career has been overshadowed by Monash's military fame. He was skilled in various disciplines and later worked as a municipal and consulting engineer in Victoria.



Who was Wheeler?

The bridge carries the Creswick-Lawrence road across Birch Creek. It is named after James Henry Wheeler who represented the district in the Victorian Legislative Assembly for more than 20 years between 1864 and 1900.

From Pots to Ponts

French horticulturalist Joseph Monier devised a method of making flower pots and garden furniture by using a mesh of thin iron rods to reinforce concrete. He took out a patent in 1867 and continued to find new uses for the method which makes the best use of each material.

The technique was soon applied to other structures and in 1875 Monier designed the first iron-reinforced concrete bridge (*pont* is the French word for *bridge*).

In the early 1890s the Sydney firm of Carter Gummow & Co acquired the rights to build Monier bridges in Australia.

In 1897 Monash & Anderson forged a link with them and obtained sole rights to the Monier patent in Victoria.



Engineering Heritage Marker placed on 15 June 2013
Engineers Australia Victoria Division – Hepburn Shire Council

